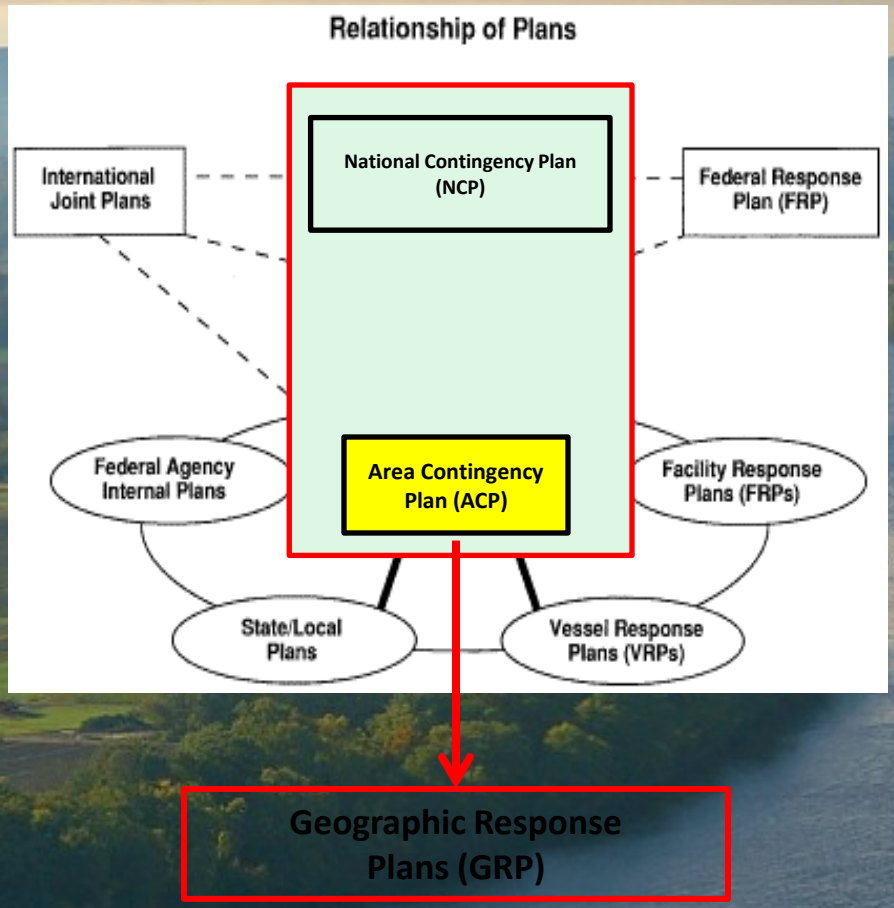
Nuka Research & Planning Group, LLC | 10 Samoset St. | Plymouth, Massachusetts 02360 | www.nukaresearch.com

# New England Inland Rivers Geographic Response Plans (GRP) Project Update

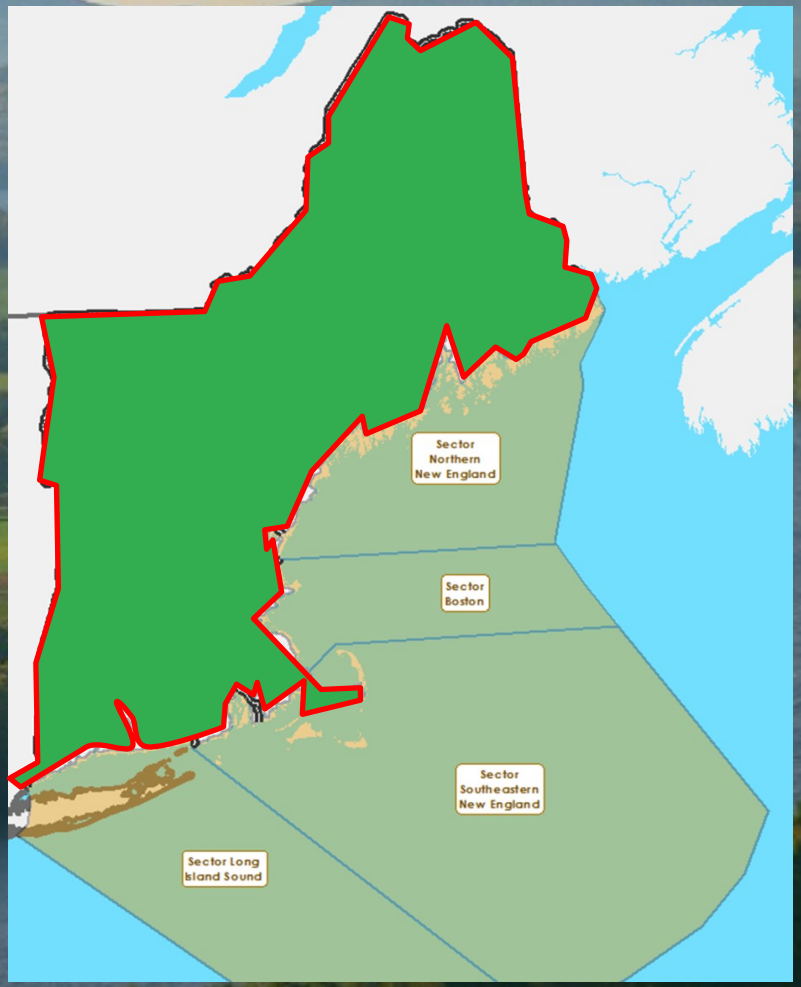
*James Carew, USEPA Region 1*
*Mike Popovich, Nuka Research and Planning Group, LLC.*

# Geographic Response Plans



# Geographic Response Plans

- GRPs will be integrated into Inland ACP
- Change of Scale
- Intended for initial response



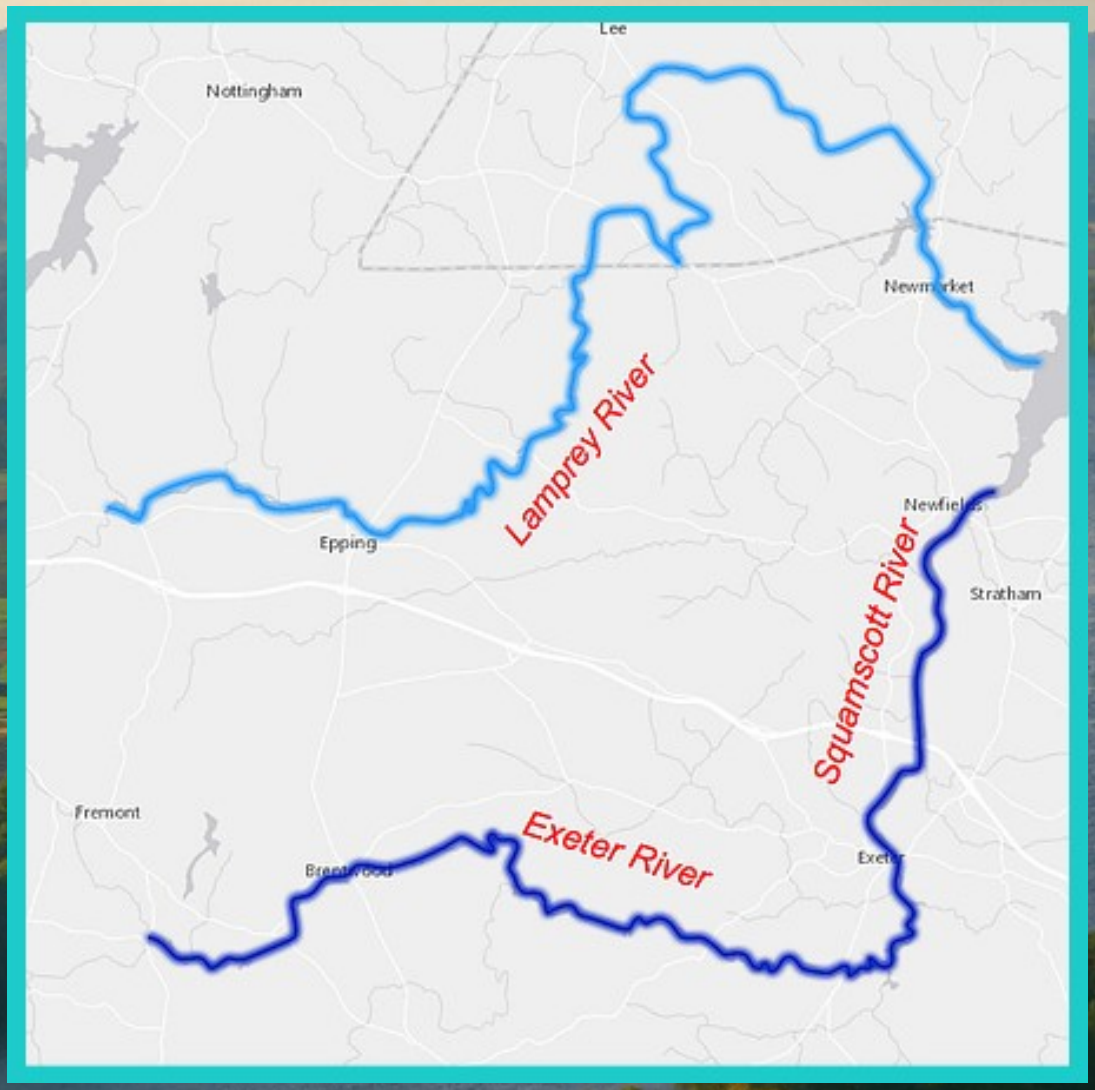
# Geographic Response Plans

- What are the advantages of using GRPs?
  - Provide a starting point for local responders
  - Strategies tailored to a small geographic area
  - Developed by experienced pollution responders
  - Helps Unified Command make response decisions
    - » Helps to prioritize response actions
    - » Pre-identifies collection and staging areas
    - » Assists with Resource Management
  - Available to all responders

# Active Project Overview

- Develop 10 (total) GRPs for both the Kennebec and Penobscot Rivers
  - Includes a portion of Sebasticook River
- Develop 5 (total) GRPs for the Exeter and Lamprey Rivers
  - Includes a portion of the Squamscott River
- Completion July 2016

# Exeter/Lamprey



# GRP Process

1. Form Work Group.
2. Prioritize sites for GRP development.
3. Survey sites.
4. Develop GRP (apply tactics to each site).
5. Publish GRP in Inland Area Contingency Plan.
6. Ideally, testing/modification of inland GRPs into existing State coastal GRS program.

# Work Groups

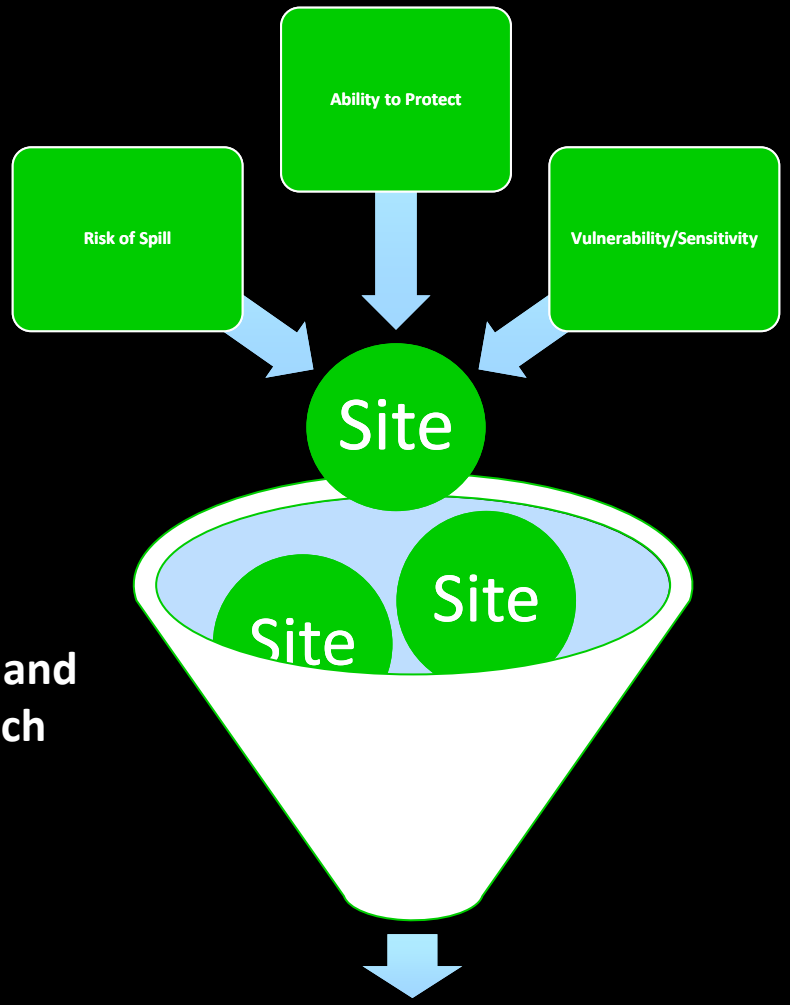
## Maine

- City of Augusta FD
- City of Bangor
- Cold Brook Energy/PROPAC
- Town of Fairfield/Benton FD
- Hallowell Conservation Commision
- Somerset County EMA
- Waterville/Winslow EMA/FD
- Maine CDC Drinking Water Program
- Maine DEP
- Maine Emergency Management Agency
- Maine Historic Preservation Comm.
- Maine Inland Fish & Wildlife
- Penobscot Nation
- U.S. EPA
- U.S. Coast Guard

## New Hampshire

- Town of Exeter
- Town of Newmarket
- Rockingham Planning Commission
- Exeter/Squamscott River Local Advisory Committee
- Eversource Energy
- New Hampshire Port Authority
- Porstmouth Naval Shipyard
- New Hampshire DES
- New Hampshire Fish & Game
- U.S. EPA
- U.S. Coast Guard

# Site Selection/Prioritization




**Balance Objectivity and Subjectivity to reach <u>Consensus</u>**

# Site Selection/Prioritization

**U.S. EPA Region I - Exeter, Squamscott, and Lamprey Rivers**
**Geographic Response Plan (GRP) Site Selection Matrix**

| GRP # | Site Name | Fish | Birds | Threatened/ Endangered Species | Cultural Res. | Human Use | Land Mgt | Riverine Habitat | Spill Threat High/Medium/Low | Site Accessibility High/Medium/Low |
|---|---|---|---|---|---|---|---|---|---|---|
| **SQ-01** | **Newfields*** | | IW, SE, SH | | | BR, IF, WI, PW | CA, WP | W | H | |
| **ER-01** | **Linden St/RT 108/Great Brook** | | | | | PW | CA, WP | | H (due to railroad upstream) | |
| **ER-02** | **Exeter/Gilman Park/Norris Brook** | | | | | IF, LD, PW | CA, P, WP | MM, V, M, W | M | |
| **LR-01** | **Wadleigh Falls** | | | | | IF, LD, PW | CA | V | L | Secondary after Rte 87 boat ramp |
| **LR-02** | **Newmarket/Newmarket/ Stagecoach Rd** | A,C | | | HA | IF, LD, BR, RF | CA, P, WP | MM, M, V | H | Somewhere in the vicinity of the dam in Newmarket |
| | | | | | | | | | | |
| | Cavil Mill Dam | | | | | LD | | M, W | L to M | |
| | Mill Rd. Dam | | | | | LD | | V | L to M (@ Rte 107) | |
| | Crawley/Brentwood Falls/ Rte 125 | | | | | IF, LD | | V | M (from Rte 125) | Low; use Haigh Rd Bridge downstream |
| | Red Brook/111A Rd | | | | | | | | L (from Rte 11 A or upstream) | |
| | Pickpocket Dam | | | | | LD | | V | L | |
| | Route 111 Bridge | | | | | | | | L | |
| | River Rd.* | | IW, SE, SH | | | | | W | H | |
| | Epping* Rte 125 and 27 | | | | | IF, PW | | M, V, W | M | Collect at Rte 87 boat Ramp? |
| | Wiswall Falls | | | | | LD, PW | | V | L | Good collection |
| | Packers Falls | | | | | LD | | V | L | |

**NOTE: Locations in BOLD were chosen for GRP development during Site Selection Meeting on 24FEB16.**

* - *Location pre-identified by NH DES for potential GRP development prior to this project*

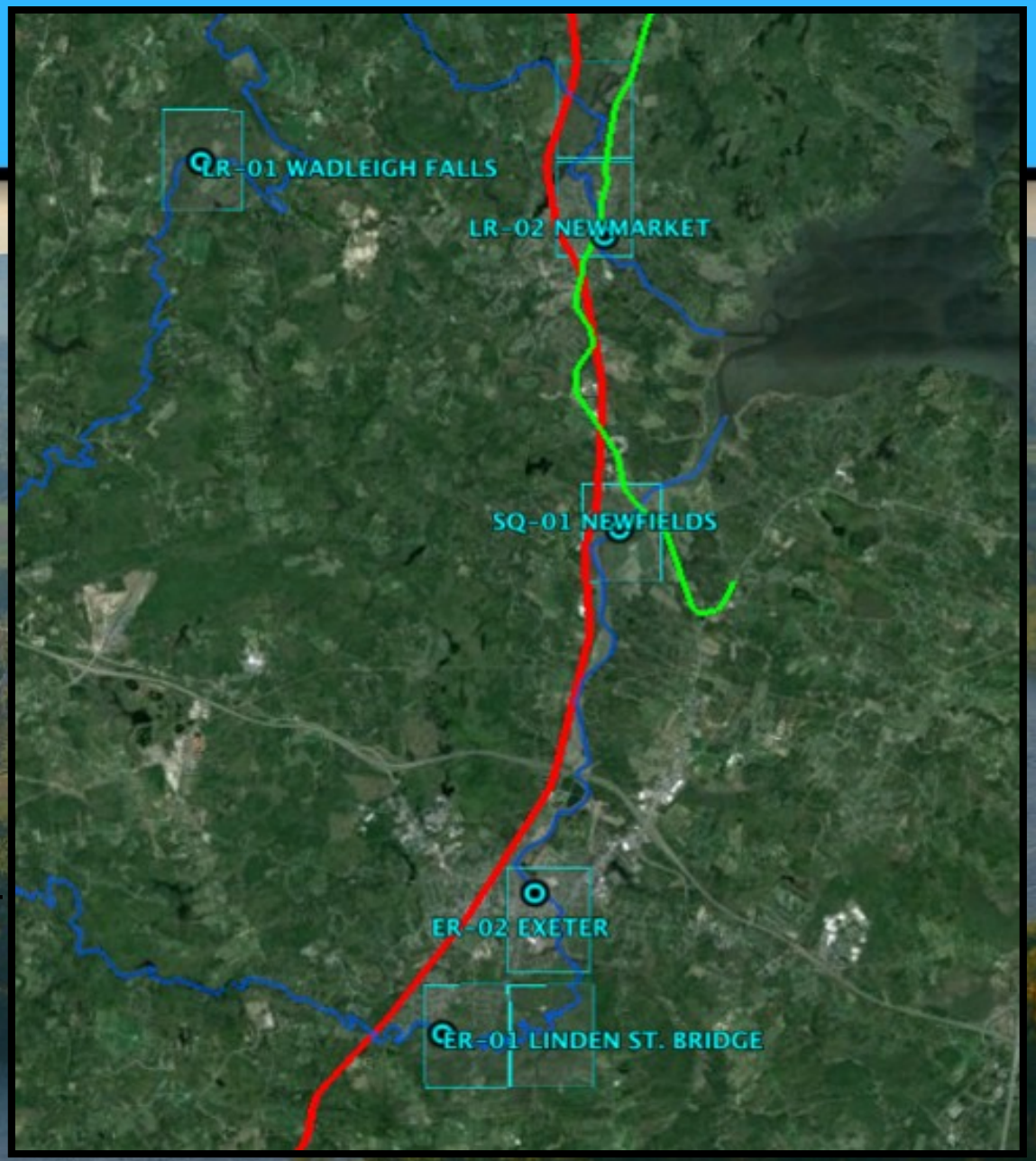
General Source material included:
1. New Hampshire Environmental Sensitivity Index Map NH-5 (Eastern portion of Exeter, Squamscot, and Lamprey only)
2. EPA Region I Inland ACP
3. New Hampshire Fish & Game Wildlife Habitat Land Cover Maps
4. NH GRANIT View
5. Work Group member input

2/29/16

***FINAL***

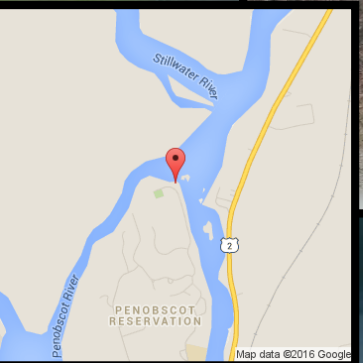
# GRP Sites

- **Exeter/Lamprey/ Squamscott**
- **ER-01** Linden St.
- **ER-02** Exeter
- **SQ-01** Newfields
- **LR-01** Wadleigh Falls
- **LR-02** Newmarket



# Survey Sites


# Survey Sites



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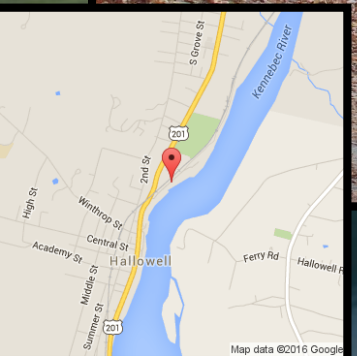

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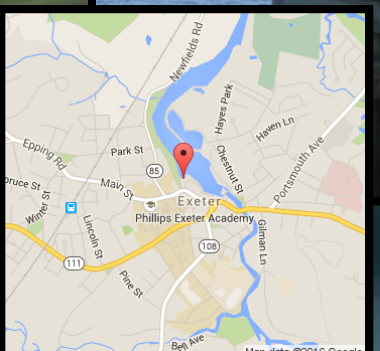
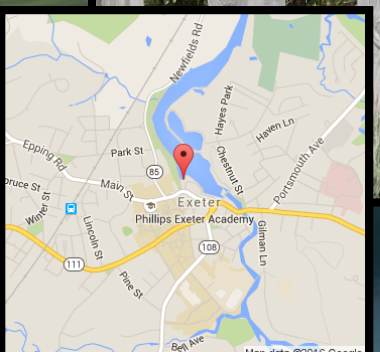



EXETER PARKS & RECREATION
This Garden Adopted by:
Luann Faber
CAUTION
TURTLE NURSERY
TURTLE EGGS
IN MULCH
Please
KEEP OFF


Newfields Rd
Hayes Park
Haven Ln
Epping Rd
Park St
Chestnut St
Portsmouth Ave
Main St
Exeter
Phillips Exeter Academy
Winter St
Lincoln St
Gilman Ln
Pine St
Bell Ave

# Next Steps

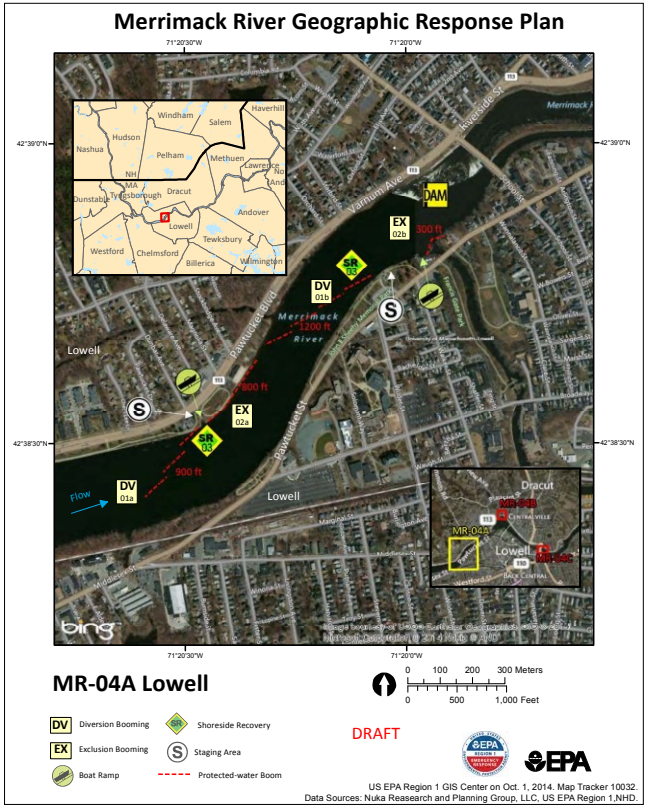
1. **Initial Meetings- December 2015**
2. **Site Selection Meeting- February 2016**
3. **Site Surveys- April 2016**
4. **Draft GRP Tactics- *May 2016***
5. **Review/Finalization of GRPs by Work Group- June *2016***
6. **Publish GRPs in Area Plan - *TBD***

# Questions?


**www.inlandgrpne.com**

# GRP Layout

- Page 1- **Tactics Map**
- Some GRPs have single tactics map, some have 2-3



# Pages 2 & 3: Tactics Tables

| ID | Location and Description | Response Strategy | Implementation |
|---|---|---|---|
| **MR-04-01**<br>DV | **Lowell**<br>(a)Lowell Heritage State Park Boat Ramp<br>Lat. 42°38'31.65"N<br>Lon. 71°20'27.82"W<br>(b)John Sheehy Memorial Park<br>Lat. 42°38'45.83"N<br>Lon. 71°20'5.09"W<br>(c)Beaver Brook<br>Lat. 42°39'35.65"N<br>Lon. 71°19'7.02"W<br>(d)Riverfront Park<br>Lat. 42°38'46.39"N<br>Lon. 71°17'46.21"W | **Divert and Collect – Shoreside**<br>Position boom in the identified configuration to intercept oil before it reaches the Pawtucket Falls and Dam and/or oil generally migrating downriver and divert oil to river bank for recovery.<br><br>Consider source location and river flow patterns when selecting tactics and deployment strategies. | Deploy anchors and boom with skiffs.<br><br>For (a) deploy 3 - 300 ft. sections of 10" – 12" boom in a cascade array at the proper angle to divert incoming oil to the collection site.<br>For (b) deploy 4 - 300 ft. sections of 10" – 12" boom in a cascade array at the proper angle to divert incoming oil to the collection site.<br>For (c) deploy 100 ft. of 10" – 12" boom in a single leg at the proper angle to divert incoming oil to the collection site.<br>For (d) deploy 800 ft. of 10" – 12" boom in a cascade array at the proper angle to divert incoming oil to the collection site.<br><br>Set up shoreside recovery systems. Deploy passive recovery using sorbents at collection point to minimize leakage. Adjust the angle and length of boom and the shoreside collection site depending on oil trajectory.<br><br>When implementing the Diversion tactic, responders must ensure that skimming systems and temporary oil storage devices are available to implement the shoreside recovery tactic.<br><br>Tend as necessary based on river flow conditions. |
| **MR-04-02**<br>EX | **Lowell**<br>(a)Lowell Heritage State Park<br>Lat. 42°38'36.21"N<br>Lon. 71°20'22.26"W<br>(b)Pawtucket Canal<br>Lat. 42°38'50.28"N<br>Lon. 71°19'56.40"W | **Exclusion**<br>Set boom across entrances to creeks, inlets, coves and near water treatment facilities to prevent oil from migrating into sensitive areas and critical infrastructure. | For (a) deploy 800 ft of 10" – 12" boom in the identified pattern to prevent oil from impacting the Lowell Heritage State Park waterfront and beach area.<br><br>For (b) deploy 300 ft of 10" – 12" boom in the identified pattern to prevent oil from entering the Pawtucket Canal.<br><br>Secure with anchor stakes on shore and anchors in midstream. Deploy passive recovery using sorbents at attachment points to minimize leakage.<br><br>Tend as necessary based on river flow conditions. |
| **MR-04-03**<br>SR | Same as MR-04-01 | **Shoreside Recovery** -<br>Remove spilled oil that has been diverted to the designated recovery site accessible from shore. | Deploy skimming system(s) appropriate for the operating environment and temporary oil storage system in designated location.<br><br>Oil spill contractor resources will be required to implement Shoreside Recovery tactics. |

| ID | Response Resources | Staging Area Site Access | Resources Protected | Special Considerations |
|---|---|---|---|---|
| **MR-04-01**<br>DV | **Deployment**<br>***Equipment (All sites)***<br>3000 ft 10" – 12" boom<br>17 anchor systems<br>14 anchor stakes (doubled at each shoreside anchor point)<br>3 shoreside recovery systems<br>***Vessels***<br>2 skiffs<br>***Personnel/Shift***<br>8 total (1 vessel operator + 1 responder per vessel, 4 shoreside responders)<br>**Tending**<br>***Vessels***<br>1 skiff<br>***Personnel/Shift***<br>4 total (1 vessel operator + 1 responder per vessel, 2 shoreside responders) | (a) **Lowell Heritage State Park Boat Ramp**- 160 Pawtucket Blvd., Lowell, MA.<br>(b) **John E. Sheehy Memorial Park**- 499 Pawtucket St., Lowell, MA<br>(c) **Beaver Brook**- Southeast side of Beaver Brook at Beaver St. bridge. Limited access and space. Contact Lowell FD.<br>(d) **Riverfront Park** – From Hunts Falls Bridge (northbound) take 1st exit off traffic circle onto MA-110 East. Parking and path access is approx ½ mile on right adjacent to the Walkway Condominiums at 333 First St. Blvd. | **Fish**-Anadromous, Catadromous<br><br>**Birds**-Bald Eagle, Shorebirds<br><br>**Habitat**- Fresh Water River, Muddy Banks, Man-Made Structures, Vegetated Shoreline, Wetlands<br><br>**Human use**- Boat Ramps, Marinas, Infrastructure, Lock & Dam, Park, Water Intake,<br><br>MassDEP Priority Resource Maps should also be referenced via OLIVER, the MassGIS online data viewer at: http://maps.massgis.state.ma.us/map_ol/oliver.php | River conditions including flow rate and water depth vary depending on time of year and heavy rain and/or snowfall. Survey site prior to deployment and modify deployment tactics and techniques as appropriate based on observed river conditions. If ice is present GRP tactics and strategies must be reevaluated.<br><br>Vessel operators should have local knowledge and experience operating in riverine environments.<br><br>Entire site surveyed: 04/29/14.<br><br>**Field tested: not yet.** |
| **MR-04-02**<br>EX | **Deployment**<br>***Equipment (All sites)***<br>1100 ft 10" – 12" boom<br>1 anchor systems<br>14 anchor stakes (doubled at each shoreside anchor point)<br>1100 ft of snare or sorbent boom<br>***Vessels/Personnel***<br>Same as MR-04-01. | Same as MR-04-01 (a) and (b) | Same as MR-04-01. | Same as MR-04-01. |
| **MR-04-03**<br>SR | **Deployment**<br>***Equipment (All sites)***<br>1 shoreside recovery system[1]<br>***Vehicles***<br>1 truck or truck with trailer<br>***Personnel/Shift****<br>2-5 shoreside responders (depending on recovery system and hours of operation)<br>**Personnel may be part of Diversion Booming team* | Same as MR-04-01 | Same as MR-04-01 | Same as MR-04-01 |

**Special Note**: Lowell Fire Department has the capability to respond to oil discharges within the Lowell canal system bounded by the Pawtucket Canal and the Concord River. Equipment includes: 3 inflatable boats, 1 Aluminum Boat, 1 Hazmat/Special Ops vehicle, 40 ft curtain boom, 60 ft sorbent boom, sorbent pads, 1 trailer with 80 ft. curtain boom and assorted sorbent boom

[1] Skimmer, pumps, power pack, hoses, fittings, rigging, temporary storage device(s)

# Page 4:  Site Photos/Contacts

Page 4- **Site Photos & Local Contacts**

**Site Photographs and Contact Information**

Lowell Heritage State park (foreground) and John Sheehy Memorial Park (upper left). View looks southeast.

Entrance to Pawtucket canal (EX-04-02b).  View looks north.

Beaver Brook (DV-04-01c). View looking north.

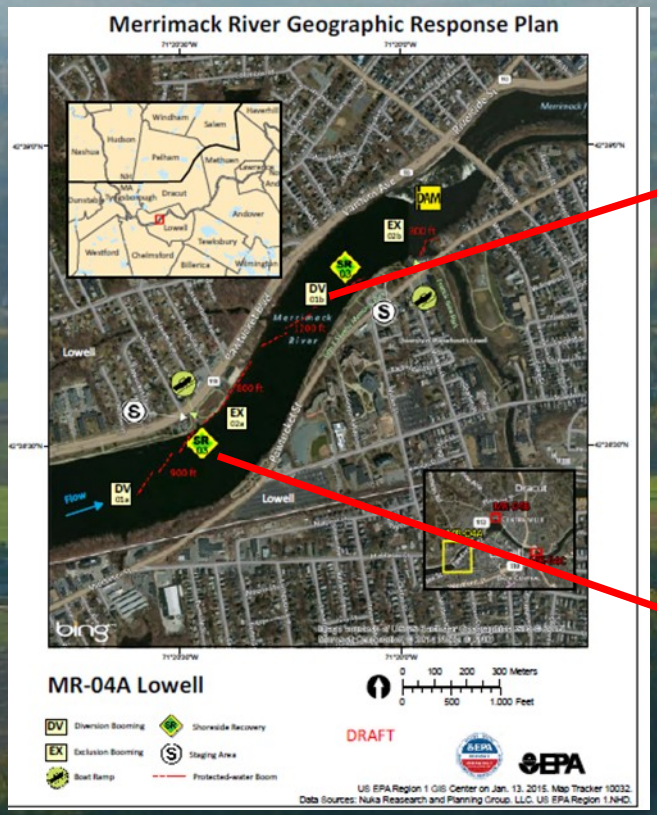
John Sheehy Park.  Site of DV-04-01b.  View looking west (upriver) towards Lowell Heritage State Park.

Merrimack River south of RT 38 bridge looking southeast towards Riverfront Park.  Site of DV-04-01d.

**Contact Information:**

Dracut Fire Department: 978-454-2113
Enel Green Power: 978-681-1900
Lowell Fire Department: 978-465-5556
Lowell Emergency Management: 978-674-4590
Lowell Water/Sewer Department: 978-674-4240
Tewksbury Fire Department: 978-640-4418
Tewksbury Water/Sewer Department: 978-858-0345
Mass DEP:  1-888-304-1133
Mass Division of Marine Fisheries: 617-626-1520
Mass Environmental Police: 800-632-8802
National Response Center:  800-424-8802

# Field Use

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| MR-04-02 EX | **Deployment**<br>***Equipment (All sites)***<br>1100 ft 10" – 12" boom<br>1 anchor systems<br>14 anchor stakes (doubled at each shoreside anchor point)<br>1100 ft of snare or sorbent boom<br>***Vessels/Personnel***<br>Same as MR-04-01. | Same as MR-04-01 (a) and (b) | Same as MR-04-01. | Same as MR-04-01. |
| MR-04-03 SR | **Deployment**<br>***Equipment (All sites)***<br>1 shoreside recovery system[1]<br>***Vehicles***<br>1 truck or truck with trailer<br>***Personnel/Shift****<br>2-5 shoreside responders (depending on recovery system and hours of operation)<br>**Personnel may be part of Diversion Booming team* | Same as MR-04-01 | Same as MR-04-01 | Same as MR-04-01 |

Special Note: Lowell Fire Department has the capability to respond to oil discharges within the Lowell canal system bounded by the Pawtucket Canal and the Concord River. Equipment includes: 3 inflatable boats, 1 Aluminum Boat, 1 Hazmat/Special Ops vehicle, 4(

# Review

- Laws, Regulations, Plans
- Workgroup
- Geographic Response Plans (GRP)
  - Integrated into ACP
  - How GRPs are used
  - Development
- Final Product
- GRPs will be posted on RRT1 Website:
  - **https://nrtqa.ert.org/site/site_profile.aspx?site_id=38**

# Questions?

**James Carew**
**EPA Region 1**
**Emergency Planning and Response Branch (EPRB)**

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**C: 857-200-0480**
**Carew.James@epa.gov**